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Indian Standard

(Reafirmed 2002)

SPECIFICATION FOR TAPER KEYS AND KEYWAYS

(First Revision)

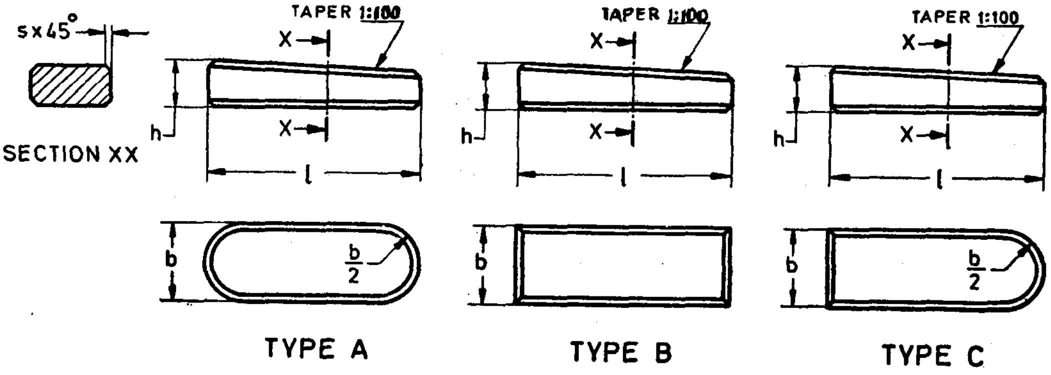
1. Scope — Dimensions and tolerances for plain taper keys and keyways.

2. Types — The keys shall be of the following types:

Type A — Keys with both ends round
Type B — Keys with both ends square
Type C — Keys with one end round and the other end square

3. Dimensions

3.1 *Keys*



All dimensions in millimetres.

b	Tol on *b* h9	*h*	Tol on *h**	*s*		Range of Key Length, *l*	
				Min	*Max*	*Min*	*Max*
2	0 −0·025	2	0 −0·025	0·16	0·25	6	20
3		3		0·16	0·25	8	36
4	0 −0·030	4	0 −0·030	0·16	0·25	10	45
5		5		0·25	0·40	12	56
6		6		0·25	0·40	16	70
8	0 −0·036	7	0 −0·090	0·25	0·40	20	90
10		8		0·40	0·60	25	110
12	0 −0·043	8		0·40	0·60	32	140
14		9		0·40	0·60	40	160
16		10		0·40	0·60	45	180
18		11	0 −0·110	0·40	0·60	50	200
20	0 −0·052	12		0·60	0·80	56	220
22		14		0·60	0·80	63	250
25		14		0·60	0·80	70	280
28		16		0·60	0·80	80	320
32	0 −0·062	18		0·60	0·80	90	360
36		20	0 −0·130	1·00	1·20	100	400

* Tolerance on *h*: Square Section h9; Rectangular Section h11.

(*Continued*)

Adopted 16 December 1974

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Gr 4

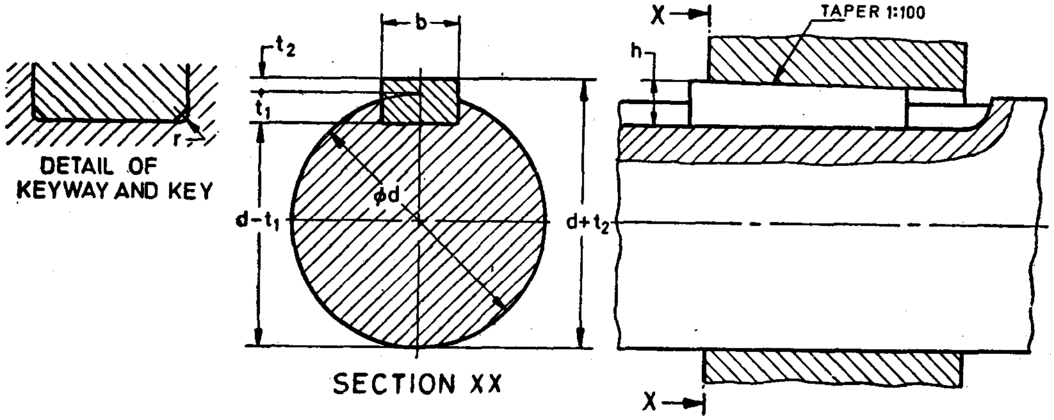
BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

Transmission Devices Sectional Committee, EDC 44; Keys and Keyways, Shaft Ends and Axle Heights Subcommittee, EDC 44 : 1 [Ref : Doc : EDC 44 (2174)]

b	Tol on *b* h9	*h*	Tol on *h**	*s*		Range of Key Length, *l*	
				Min	*Max*	*Min*	*Max*
40	0 −0·062	22	0 −0·130	1·00	1·20	110	400
45		25		1·00	1·20	125	400
50		28		1·00	1·20	140	400
56	0 −0·074	32	0 −0·160	1·60	2·00	—	—
63		32		1·60	2·00	—	—
70		36		1·60	2·00	—	—
80		40		2·50	3·00	—	—
90	0 −0·087	45		2·50	3·00	—	—
100		50		2·50	3·00	—	—

*Tolerance on *h* : Square Section h9; Rectangular Section h11.

3.2 *Keyways*



All dimensions in millimetres.

Range of Shaft Dia *d*		Key	Keyway							
Above	Up to	*b* × *h*	*b*	Tol on *b* D10	t_1	Tol on t_1	t_2	Tol on t_2	*r* Min	*r* Max
6	8	2 × 2	2	+ 0·060 + 0·020	1·2	+ 0·1 0	0·5	+ 0·1 0	0·08	0·16
8	10	3 × 3	3		1·8		0·9		0·08	0·16
10	12	4 × 4	4	+ 0·078 + 0·030	2·5		1·2		0·08	0·16
12	17	5 × 5	5		3·0		1·7		0·16	0·25
17	22	6 × 6	6		3·5		2·2		0·16	0·25
22	30	8 × 7	8	+ 0·098 + 0·040	4·0	+ 0·2 0	2·4	+ 0·2 0	0·16	0·25
30	38	10 × 8	10		5·0		2·4		0·25	0·40
38	44	12 × 8	12	+ 0·120 + 0·050	5·0		2·4		0·25	0·40
44	50	14 × 9	14		5·5		2·9		0·25	0·40
50	58	16 × 10	16		6·0		3·4		0·25	0·40
58	65	18 × 11	18		7·0		3·4		0·25	0·40
65	75	20 × 12	20	+ 0·149 + 0·065	7·5		3·9		0·40	0·60
75	85	22 × 14	22		9·0		4·4		0·40	0·60
85	95	25 × 14	25		9·0		4·4		0·40	0·60
95	110	28 × 16	28		10·0		5·4		0·40	0·60
110	130	32 × 18	32	+ 0·180 + 0·080	11·0		6·4		0·40	0·60
130	150	36 × 20	36		12·0	+ 0·3 0	7·1	+ 0·3 0	0·70	1·00
150	170	40 × 22	40		13·0		8·1		0·70	1·00
170	200	45 × 25	45		15·0		9·1		0·70	1·00
200	230	50 × 28	50		17·0		10·1		0·70	1·00
230	260	56 × 32	56	+ 0·220 + 0·100	20·0		11·1		1·20	1·60
260	290	63 × 32	63		20·0		11·1		1·20	1·60
290	330	70 × 36	70		22·0		13·1		1·20	1·60
330	380	80 × 40	80		25·0		14·1		2·00	2·50
380	440	90 × 45	90	+ 0·260 + 0·120	28·0		16·1		2·00	2·50
440	500	100 × 50	100		31·0		18·1		2·00	2·50

3.3 *Preferred Length and Weight of Keys*

All dimensions in millimetres.

Preferred Length *l*	Key (*b* × *h*)																			
	2 × 2	3 × 3	4 × 4	5 × 5	6 × 6	8 × 7	10 × 8	12 × 8	14 × 9	16 × 10	18 × 11	20 × 12	22 × 14	25 × 14	28 × 16	32 × 18	36 × 20	40 × 22	45 × 25	50 × 28
	Weight for Keys, Type B, kg/1 000 pieces (approximate)*																			
6	0·186	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
8	0·246	0·558	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10	0·306	0·695	1·24	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12	0·366	0·831	1·48	2·32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
14	0·424	0·966	1·73	2·71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
16	0·482	1·10	1·97	3·09	4·46	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
18	0·540	1·23	2·21	3·47	5·01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
20	0·598	1·37	2·45	3·84	5·90	8·66	—	—	—	—	—	—	—	—	—	—	—	—	—	—
22	—	1·50	2·69	4·22	6·11	9·52	—	—	—	—	—	—	—	—	—	—	—	—	—	—
25	—	1·69	3·04	4·78	6·92	10·8	15·5	—	—	—	—	—	—	—	—	—	—	—	—	—
28	—	1·87	3·39	5·34	7·73	12·1	17·3	—	—	—	—	—	—	—	—	—	—	—	—	—
32	—	2·14	3·86	6·08	8·80	13·7	19·7	23·6	—	—	—	—	—	—	—	—	—	—	—	—
36	—	2·39	4·32	6·81	9·86	15·4	22·1	26·5	—	—	—	—	—	—	—	—	—	—	—	—
40	—	—	4·77	7·54	10·9	17·1	24·5	29·4	38·7	—	—	—	—	—	—	—	—	—	—	—
45	—	—	5·34	8·45	12·2	19·1	27·5	33·0	43·4	55·2	—	—	—	—	—	—	—	—	—	—
50	—	—	—	9·32	13·5	21·2	30·4	36·5	48·1	61·2	75·9	—	—	—	—	—	—	—	—	—
56	—	—	—	10·4	5·11	23·6	33·9	40·7	53·6	68·4	84·8	103	—	—	—	—	—	—	—	—
63	—	—	—	—	16·8	26·4	38·0	45·6	60·0	76·5	95·1	116	149	—	—	—	—	—	—	—
70	—	—	—	—	18·6	29·2	42·0	50·4	65·5	84·8	105	128	165	187	—	—	—	—	—	—
80	—	—	—	—	—	33·2	47·7	57·3	75·6	96·5	120	146	188	214	274	—	—	—	—	—
90	—	—	—	—	—	37·0	53·3	64·0	84·6	108	134	163	211	239	308	397	—	—	—	—
100	—	—	—	—	—	—	58·8	70·4	93·5	119	148	181	233	265	341	439	551	—	—	—
110	—	—	—	—	—	—	64·3	77·2	102	131	163	198	256	290	374	482	605	741	—	—
125	—	—	—	—	—	—	—	86·9	115	147	183	223	289	328	423	546	685	839	1 080	—
140	—	—	—	—	—	—	—	96·3	125	163	204	248	322	366	471	609	764	937	1 200	1 500
160	—	—	—	—	—	—	—	—	144	185	231	281	365	415	535	691	868	1 060	1 370	1 710
180	—	—	—	—	—	—	—	—	—	206	257	314	407	463	597	773	973	1 190	1 530	1 910
200	—	—	—	—	—	—	—	—	—	—	283	346	449	510	659	854	1 070	1 320	1 700	2 220
220	—	—	—	—	—	—	—	—	—	—	—	376	490	557	721	933	1 170	1 440	1 860	2 320
250	—	—	—	—	—	—	—	—	—	—	—	—	550	626	811	1 050	1 320	1 630	2 100	2 620
280	—	—	—	—	—	—	—	—	—	—	—	—	—	692	899	1 170	1 470	1 810	2 330	2 920
320	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1 010	1 320	1 660	2 050	2 550	3 300
360	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1 470	1 850	2 290	2 950	3 700
400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2 040	2 510	3 250	4 080
Weight deduction for Type A	0·013	0·043	0·104	0·203	0·351	0·724	1·29	1·84	2·81	4·06	5·66	7·62	10·7	13·8	19·8	29·2	40·6	55·8	80·6	112

Note — For taper keys of width *b* = 56 to 100 mm, there are no specified lengths.

*For calculations of weights, density of steel taken as 7·85 g/cm³.

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4. Designation — A taper key of Type A having width 12 mm, height 8 mm and length 50 mm shall be designated as:

Taper Key A 12×8×50 IS : 2292

5. Tolerances on Length of Key and Keyway

Length of Key	Tolerance On	
	Key Length	Keyway Length
Up to 28	−0·2	+0·2
32 to 80	−0·3	+0·3
90 and above	−0·5	+0·5

6. Material of Key — Steel of tensile strength not less than 600 MN/m² (≃ 60 kgf/mm²).

EXPLANATORY NOTE

This standard was first published in 1963 and was based on DIN 6886-1956 which has since been revised. While issuing this revision, the committee responsible for the preparation of this standard has brought this standard in line with ISO/R 774-1969 'Taper keys with or without Gib-head and their corresponding keyways'. In addition, the weight of keys for specified lengths, derived from DIN 6886-1967, has been included in the standard.

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